TMDL Project Closeout Report
Lower Banister River

Virginia Nonpoint Source
MANAGEMENT PROGRAM

Project Location and Background

The Banister River watershed is located in the Roanoke River Basin in Pittsylvania and Halifax Counties, Virginia. The watershed is approximately 197,913 acres in size, and land use is predominantly forested and hay/pasture. The Lower Banister River and its tributaries (Sandy and Polecat Creeks) were listed as impaired on Virginia's *1996 Section 303(d) Total Maximum Daily Load (TMDL) Priority List and Report* due to violations of the State's Water Quality Standard for fecal coliform bacteria. The Banister River TMDL was completed in September 2007, and a TMDL implementation plan was completed for the watershed in October 2012. The implementation project ended December 2016.

Implementation Highlights

The Lower Banister River TMDL residential septic implementation project, which covered only the Halifax County portion of the implementation watershed, was administered by Tri-County Community Action Agency (TCCAA) in partnership with Halifax Soil and Water Conservation District (HSWCD) and Virginia Cooperative Extension. HSWCD also administers an agricultural cost-share program throughout the watershed. The table on the right shows project-specific BMPs implemented from July 2013 – June 2017 in addition to overall implementation goals for the project area. This project focuses specifically on implementing residential septic BMPs and agricultural BMPS from work with HSWCD.

The residential program generated interest early in the project. TCCAA led several outreach efforts to educate watershed residents about funding opportunities (see figures on the next page). Radio public service announcements resulted in a number of septic pump-outs. Staff also distributed information packets and brochures to local churches, while community volunteers distributed materials to residents and organizations in the project area.

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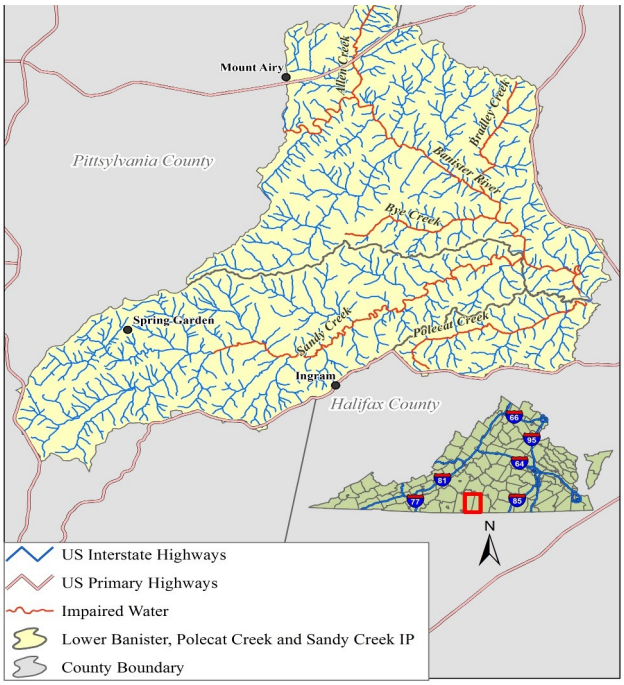


Table 1: Lower Banister River BMP Summary: July 2013—December 2016

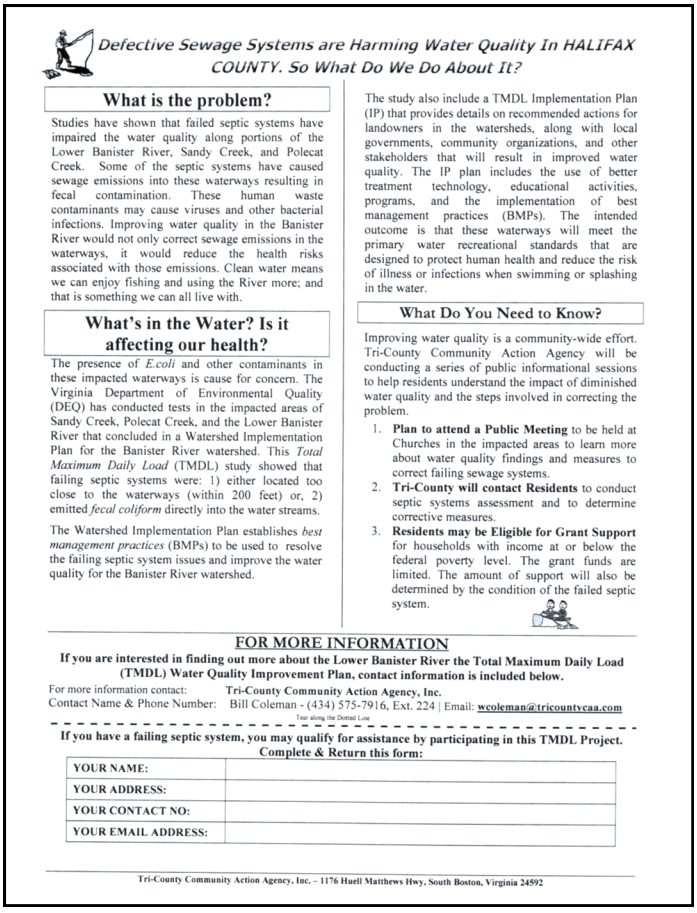
Control Measure	Units	Goal	Installed	%
Agricultural				
Stream Exclusion Fencing	S	322	24	7
Stream Exclusion Fencing	F	633,600	71,266	11
Vegetated Buffer	A	55	35	64
Reforestation of Pasture	A	155	1	<1
Permanent Vegetative Cover on Cropland	A	160	155	97
Manure Storage	S	2	0	0
Residential Septic				
Septic Tank Pump-out	S	300	20	7
Septic System Repair	S	92	3	3
Septic System Installation	S	33	1	3
Alternative Waste Treatment System	S	2	0	0

A = Acres, F = Linear Feet, S = System,

The Virginia Nonpoint Source Management Program: The Virginia NPS Management Program is managed by the Virginia Department of Environmental Quality (DEQ) and is funded, in part, through grants from the U.S. Environmental Protection Agency, under the Clean Water Act Section 319(h). For more information regarding Virginia's Nonpoint Source Management Program, please visit us on the web at: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/NonpointSourcePollutionManagement.aspx . An electronic copy of this report can be found here: http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/TMDLImplementation/TMDLImplementationProjects.aspx General NPS Program questions? email: npsgrants@deq.virginia.gov

Implementation Highlights— Continued

However, this project area proved very challenging due to its rural location, which made it difficult to inform the public about the septic funding opportunity. Additionally, many residents are elderly and do not travel often or have internet access. Socioeconomic factors further complicated implementation; many residents could not afford the out-of-pocket expense. Indoor Plumbing Rehabilitation Program (IPR) funding was utilized as match on some repair project, which enabled some citizens to participate who may not have been able to otherwise afford a septic repair or replacement. However, other challenges also affected participation. Residents were misinformed regarding the cost of septic pump-outs, others thought the program was only for low-income residents, and some citizens who were interested were unable to participate because their property falls outside of the TMDL implementation area.



Defective Sewage Systems are Harming Water Quality In HALIFAX COUNTY. So What Do We Do About It?

What is the problem?

Studies have shown that failed septic systems have impaired the water quality along portions of the Lower Banister River, Sandy Creek, and Polecat Creek. Some of the septic systems have caused sewage emissions into these waterways resulting in fecal contamination. These human waste contaminants may cause viruses and other bacterial infections. Improving water quality in the Banister River would not only correct sewage emissions in the waterways, it would reduce the health risks associated with those emissions. Clean water means we can enjoy fishing and using the River more; and that is something we can all live with.

What's in the Water? Is it affecting our health?

The presence of *E.coli* and other contaminants in these impacted waterways is cause for concern. The Virginia Department of Environmental Quality (DEQ) has conducted tests in the impacted areas of Sandy Creek, Polecat Creek, and the Lower Banister River that concluded in a Watershed Implementation Plan for the Banister River watershed. This *Total Maximum Daily Load* (TMDL) study showed that failing septic systems were: 1) either located too close to the waterways (within 200 feet) or, 2) emitted *fecal coliform* directly into the water streams.

The Watershed Implementation Plan establishes *best management practices* (BMPs) to be used to resolve the failing septic system issues and improve the water quality for the Banister River watershed.

The study also include a TMDL Implementation Plan (IP) that provides details on recommended actions for landowners in the watersheds, along with local governments, community organizations, and other stakeholders that will result in improved water quality. The IP plan includes the use of better treatment technology, educational activities, programs, and the implementation of best management practices (BMPs). The intended outcome is that these waterways will meet the primary water recreational standards that are designed to protect human health and reduce the risk of illness or infections when swimming or splashing in the water.

What Do You Need to Know?

Improving water quality is a community-wide effort. Tri-County Community Action Agency will be conducting a series of public informational sessions to help residents understand the impact of diminished water quality and the steps involved in correcting the problem.

1. **Plan to attend a Public Meeting** to be held at Churches in the impacted areas to learn more about water quality findings and measures to correct failing sewage systems.
2. **Tri-County will contact Residents** to conduct septic systems assessment and to determine corrective measures.
3. **Residents may be Eligible for Grant Support** for households with income at or below the federal poverty level. The grant funds are limited. The amount of support will also be determined by the condition of the failed septic system.

FOR MORE INFORMATION

If you are interested in finding out more about the Lower Banister River the Total Maximum Daily Load (TMDL) Water Quality Improvement Plan, contact information is included below.

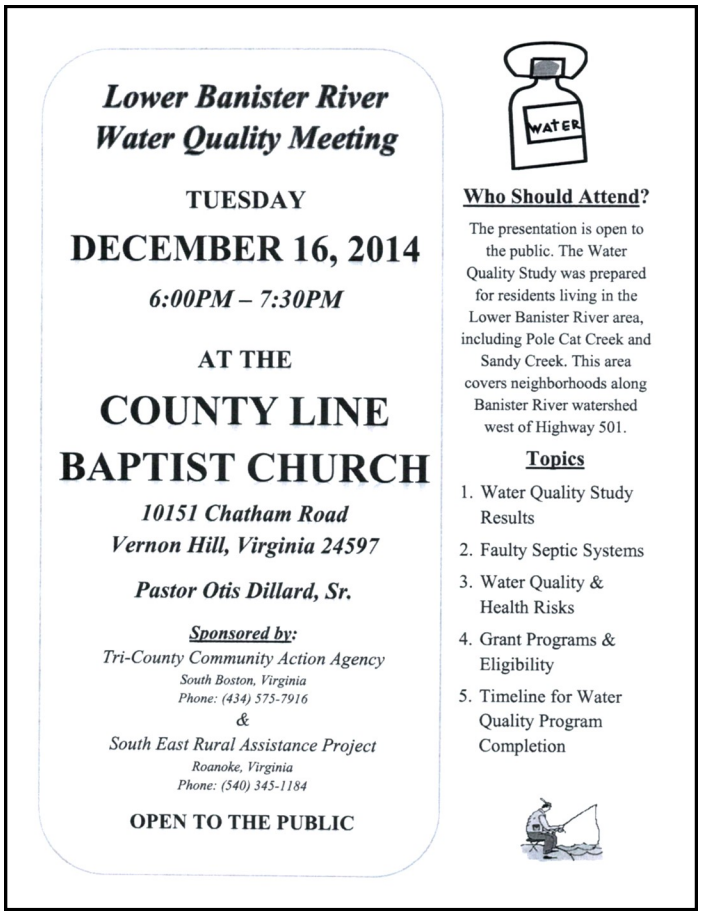
For more information contact: **Tri-County Community Action Agency, Inc.**
Contact Name & Phone Number: Bill Coleman - (434) 575-7916, Ext. 224 | Email: wcoleman@tricountycaa.com

Tear along the Dotted Line

If you have a failing septic system, you may qualify for assistance by participating in this TMDL Project. Complete & Return this form:

YOUR NAME:	
YOUR ADDRESS:	
YOUR CONTACT NO:	
YOUR EMAIL ADDRESS:	

Tri-County Community Action Agency, Inc. – 1176 Huell Matthews Hwy, South Boston, Virginia 24592



Lower Banister River Water Quality Meeting

TUESDAY

DECEMBER 16, 2014

6:00PM – 7:30PM

AT THE

COUNTY LINE BAPTIST CHURCH

10151 Chatham Road
Vernon Hill, Virginia 24597

Pastor Otis Dillard, Sr.

Sponsored by:
Tri-County Community Action Agency
South Boston, Virginia
Phone: (434) 575-7916
&
South East Rural Assistance Project
Roanoke, Virginia
Phone: (540) 345-1184

OPEN TO THE PUBLIC

Who Should Attend?

The presentation is open to the public. The Water Quality Study was prepared for residents living in the Lower Banister River area, including Pole Cat Creek and Sandy Creek. This area covers neighborhoods along Banister River watershed west of Highway 501.

Topics

1. Water Quality Study Results
2. Faulty Septic Systems
3. Water Quality & Health Risks
4. Grant Programs & Eligibility
5. Timeline for Water Quality Program Completion

Project Funding

Federal 319 funds provided $9,064 in cost-share/BMP funding and $21,717.59 in technical assistance funds for Tri-County Community Action Agency staff and Halifax SWCD staff to administer the program. Matching contributions totaled $7,485.11 for technical assistance and $5,605.50 for cost-share on BMPs. Project staff leveraged funding from the Virginia Indoor Plumbing Rehabilitation Program (IPR) to provide additional assistance for those most in need. Total project funding was $30,781.59.

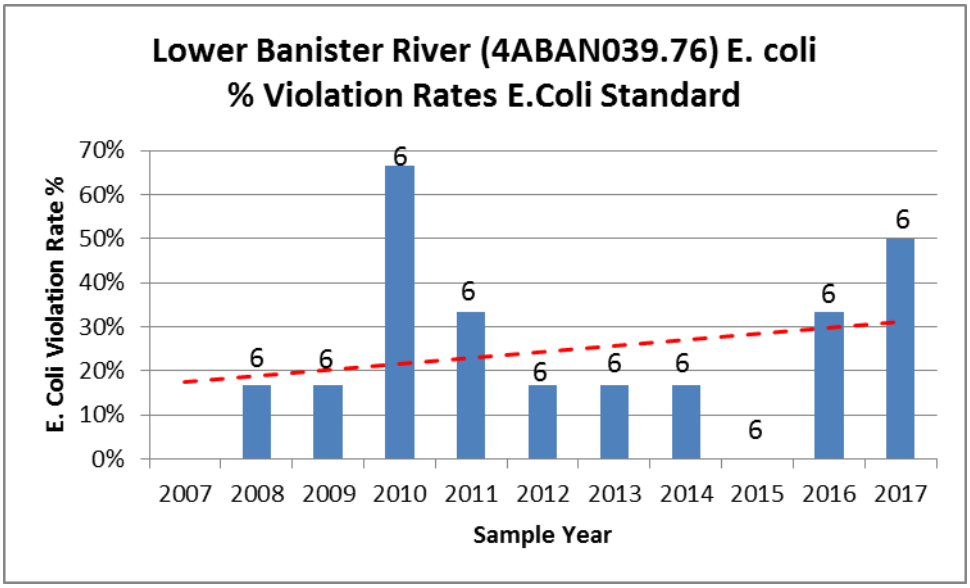
Pollution Reductions

Period	Pathogens (Coliform) (CFU)	Nitrogen (lbs/year)	Phosphorus (lbs/year)	Sedimentation (tons/year)
July 2013-June 2017	3.183E+15	15,124	3,103	3,054

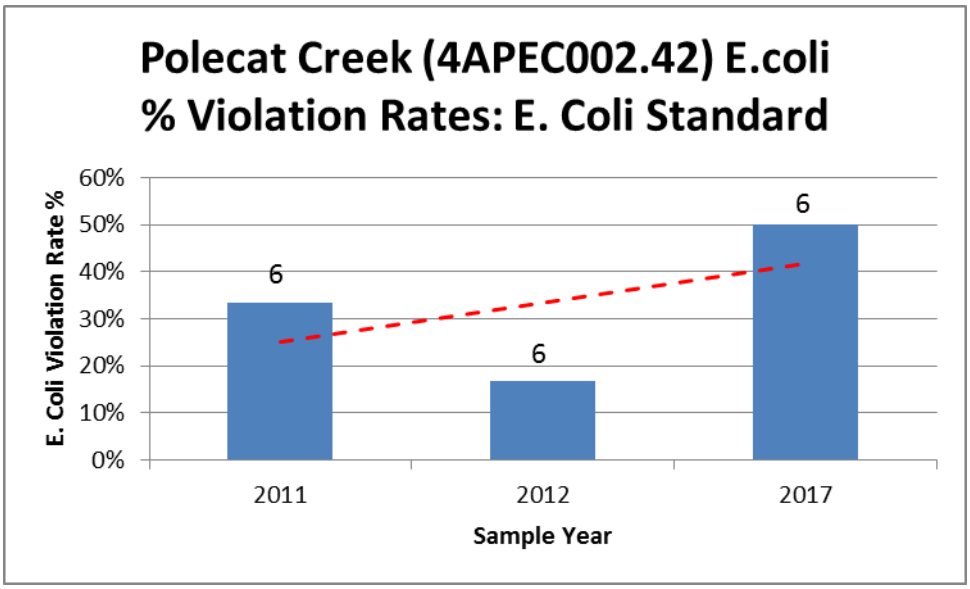
Table 2: Pollution Reductions for Lower Banister River Watershed

Water Quality Monitoring Results

Water quality data collected by DEQ for the period of 2018 through 2017 were analyzed to determine the impact of BMPs implemented in the project area on *E. coli* violation rates and associated long-term trends, if any, in water quality. The bar graphs below show the percent violation rate for samples collected annually at monitoring stations 4ABAN039.76, 4APEC002.42, and 4ASNA000.20 (appears on the next page), which did not meet the water quality standard of 235 cfu/100 mL. The number of samples collected each year is shown above each bar. The linear regression fitted to the data shows a gradual increasing trend in violation rates over the sampling period, indicating possible further water quality degradation in Lower Banister River and Polecat Creek.

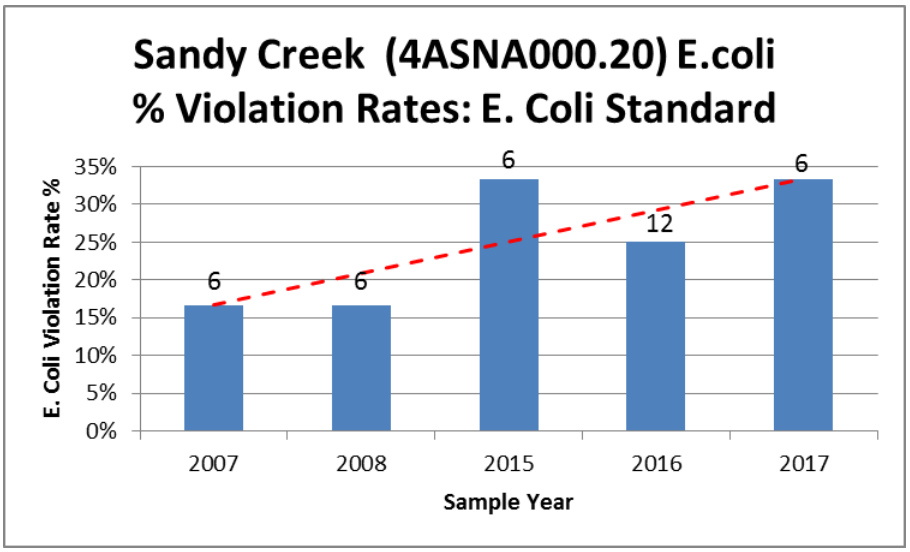


Graph 1: *E. coli* data for Lower Banister River (Station 4ABAN039.76), 2008-2017



Graph 2: *E. coli* data for Polecat Creek (Station 4APEC002.42), 2011-2017

Water Quality Monitoring Results - Continued



Graph 3: *E. coli* data for Sandy Creek (Station 4ASNA000.20), 2007-2017

Closeout Analysis

The Lower Banister River implementation project period was for two years. Public participation and overall achievement of implementation goals was low. Possible reasons for low public participation include the following:

⇒ Many property owners did not have a septic problem and/or they felt that their septic system was operating normally.

⇒ Regarding the pet waste portion of the program, landowners did not want to sign agreements for placement of pet waste units.

⇒ Some landowners were misinformed that DEQ support of septic repairs would mean they would have a lien on their property.

⇒ Public awareness was hindered by the fact that many residents of these watersheds are of an older generation and not as familiar with computers and social media as younger generations. While public outreach in an urban setting would likely be very effective utilizing social media, it is likely that many residents of the watersheds do not have regular access to computers and are not familiar with popular social media outlets such as Facebook.

⇒ While this TMDL program provided generous cost-share amounts for property owners with septic system issues, many of these property owners were in dire circumstances financially and were unable to afford even their portion of the cost-share. Furthermore, they may have feared government intervention if they were not selected for the program, requiring them to pay costly sums of money they did not have.

For More Information Please Contact:

James Moneymaker, *DEQ* - TMDL NPS Coordinator,
James.moneymaker@deq.virginia.gov, (540) 562-6738

William J. Coleman, Tri-county Community Action Agency.
Wcoleman@tricountycaa.com, (434) 575-7916, ext. 224